

SYSTEM AND METHOD FOR MONITORING AND STIMULATING GASTRO-INTESTINAL MOTILITY

Abstract of the Disclosure

A system and method for monitoring and stimulating GI motility is provided. One or more capsules (or motility markers) may be ingested by a patient for passage through the GI tract. Each capsule may contain an emitting coil which produces an AC magnetic field, or a permanent magnet. An external sensing device comprising multiple magnetic field sensors is used to measure, among other data, the position of the ingested capsules within the GI tract. As signals from the magnetic field sensors are acquired, an iterative algorithm continuously calculates the magnetic momentum and position of each capsule in real time. The position of each capsule may be defined by five coordinates (x , y , z , θ , ϕ) representing three translations and two rotations. This data may be displayed in real time or saved for further processing. When one or more capsules reach a segment of the GI tract that has been identified for treatment, the capsule(s) may be subjected to an external magnetic field applied by a generator or other device. The applied magnetic field may result in movements of the capsule with respect to the enteric nervous system so as to trigger the natural, physiological propulsive reflexes of the GI tract.